

DEPARTMENT of ENVIRONMENTAL SERVICES
Water Division - Watershed Management Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: FRANCIS, LAKE	Lake Area (ha):	842.55
Town: CLARKSVILLE	Maximum depth (m):	25.0
County: Coos	Mean depth (m):	12.2
River Basin: Connecticut	Volume (m ³):	102676000
Latitude: 45°02'45" N	Relative depth:	0.8
Longitude: 71°23'04" W	Shore configuration:	2.31
Elevation (ft): 1385	Areal water load (m/yr):	31.73
Shore length (m): 23800	Flushing rate (yr ⁻¹):	2.60
Watershed area (ha): 44030.0	P retention coeff.:	0.42
% watershed ponded: 4.3	Lake type:	artificial

BIOLOGICAL:

		7 March 2000	11 August 1999
DOM. PHYTOPLANKTON (% TOTAL)	#1	COELOSPHAERIUM 50%	ASTERIONELLA 55%
	#2	ASTERIONELLA 30%	TABELLARIA 35%
	#3	MELOSIRA 8%	
PHYTOPLANKTON ABUNDANCE (units/mL)			
CHLOROPHYLL-A (µg/L)			2.36
DOM. ZOOPLANKTON (% TOTAL)	#1	POLYARTHRA 46%	POLYARTHRA 53%
	#2	KELLICOTTIA 23%	ACANTHOCYSTIS 27%
	#3		
ROTIFERS/LITER		24	20
MICROCRUSTACEA/LITER		2	2
ZOOPLANKTON ABUNDANCE (#/L)		26	30
VASCULAR PLANT ABUNDANCE			Sparse
SECCHI DISK TRANSPARENCY (m)			3.8
BOTTOM DISSOLVED OXYGEN (mg/L)		9.0	5.2
BACTERIA (E. coli, #/100 ml)	#1		< 1
	#2		1
	#3		

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m): 13.2
Hypolimnion volume (m³) : 13444000
Anoxic volume (m³) : None

CHEMICAL:Lake: FRANCIS, LAKE
Town: CLARKSVILLE

	7 March 2000		11 August 1999		
DEPTH (m)	4.0	8.0	5.0	13.0	17.0
pH (units)	6.6	6.5	6.8	6.5	6.4
A.N.C. (Alkalinity)	7.7	7.7	8.6	9.3	9.7
NITRATE NITROGEN	0.31	0.22	0.15		0.22
TOTAL KJELDAHL NITROGEN	< 0.10	< 0.10	0.20	0.30	0.30
TOTAL PHOSPHORUS	0.009	0.005	0.003	0.004	0.001
CONDUCTIVITY (μ mhos/cm)	33.6	34.0	36.5	37.0	37.1
APPARENT COLOR (cpu)	36	28	27	28	28
MAGNESIUM			0.83		
CALCIUM			4.5		
SODIUM			1.2		
POTASSIUM			< 0.40		
CHLORIDE	< 2	< 2	< 2		< 2
SULFATE	8	4	3		3
TN : TP			117		520
CALCITE SATURATION INDEX			2.9		

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1999

D.O. S.D. PLANT CHL TOTAL CLASS

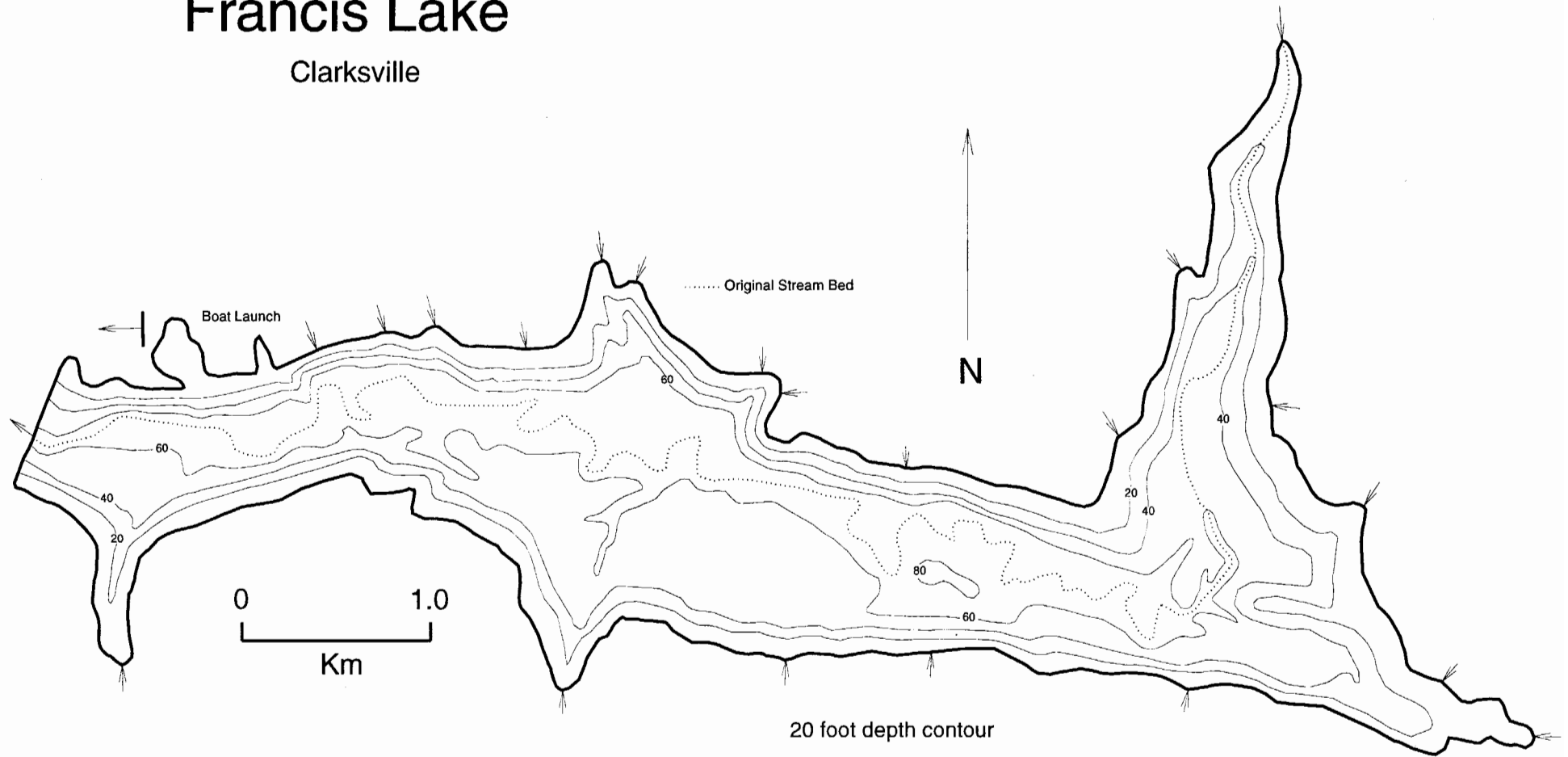
0	2	0	0	2	Oligo.
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COMMENTS:

1. Lake Francis was previously surveyed and classified in 1983. There was no change in classification or water quality between the two dates.
2. This is a man-made hydro-power reservoir. The water level was drawn down greatly during the winter sampling and was down about 3 to 5 feet during the summer survey.

Francis Lake

Clarksville



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COMMENTS:

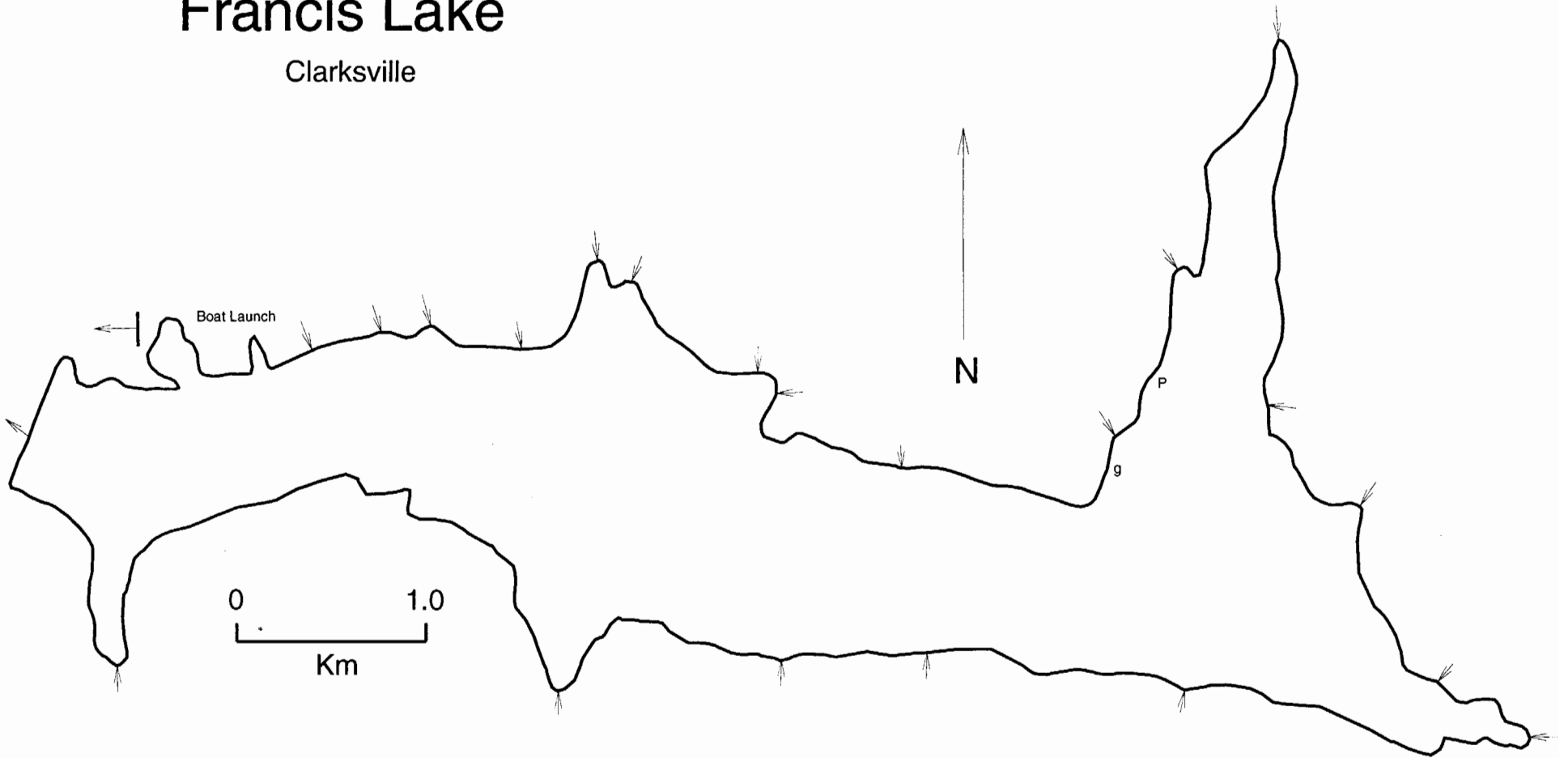
TIME: 1100

*Dissolved oxygen values are in mg/L

Francis Lake

Clarksville

III-110



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